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(19) **United States**(12) **Patent Application Publication****Arora et al.**(10) **Pub. No.: US 2019/0297569 A1**(43) **Pub. Date: Sep. 26, 2019**(54) **BASEBAND POWER ESTIMATION AND  
FEEDBACK MECHANISM**(71) Applicant: **Apple Inc.**, Cupertino, CA (US)(72) Inventors: **Sunny Arora**, San Jose, CA (US); **Rati Agrawal**, Santa Clara, CA (US); **Sami M. Almalfouh**, San Jose, CA (US); **Xiantao Sun**, Sunnyvale, CA (US); **Johnson O. Sebeni**, Fremont, CA (US); **Wael S. Barakat**, San Jose, CA (US); **Navid Damji**, Cupertino, CA (US); **Srinivas Pasupuleti**, San Jose, CA (US); **Raghuveer Mallikarjunan**, Sunnyvale, CA (US)(21) Appl. No.: **16/437,127**(22) Filed: **Jun. 11, 2019****Related U.S. Application Data**

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(57)

**ABSTRACT**

This disclosure relates to techniques for estimating baseband power consumption and using the baseband power consumption estimation to select baseband operation features. According to some embodiments, one or more baseband power consumption modifiers occurring during an estimation window may be identified. Baseband power consumption of the wireless device during the estimation window may be estimated based on the identified baseband power consumption modifiers occurring during the estimation window. Baseband data throughput of the wireless device during the estimation window may also be estimated. One or more baseband operation characteristics may be selected based at least in part on the estimated baseband power consumption during the estimation window, possibly in conjunction with the estimated baseband data throughput during the estimation window, current wireless medium conditions, and/or other considerations.

